

REMARKS

This is intended as a full and complete response to the Office Action dated October 8, 2008, having a shortened statutory period for response set to expire on January 8, 2009. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-22 are pending in the application. Claims 1, 4-16, and 19-21 remain pending following entry of this response. Claims 1, 4, 16 and 19 have been amended. Claims 2, 3, 17, 18 and 22 have been canceled. Applicants submit that the amendments do not introduce new matter.

Claim Rejections - 35 U.S.C. § 101

Claim 22 is rejected under 35 U.S.C. 101 the claimed invention is directed to non-statutory subject matter.

Claim 22 has been cancelled. Therefore, the rejection to this claim is moot.

Claim Rejections - 35 U.S.C. § 103

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Grundy et al.* (U.S. Publication No. 2004/0148482, hereinafter, "*Grundy*") in view of *Pencis et al.* (U.S. Patent No. 6,865,652, hereinafter, "*Pencis*") and *Sakurai* (U.S. Patent No. 5,959,930).

Applicants respectfully traverse this rejection.

The Examiner bears the initial burden of establishing a prima facie case of obviousness. See MPEP § 2141. Establishing a prima facie case of obviousness begins with first resolving the factual inquiries of *Graham v. John Deere Co.* 383 U.S. 1 (1966). The factual inquiries are as follows:

- (A) determining the scope and content of the prior art;
- (B) ascertaining the differences between the claimed invention and the prior art;
- (C) resolving the level of ordinary skill in the art; and
- (D) considering any objective indicia of nonobviousness.

Once the Graham factual inquiries are resolved, the Examiner must determine whether the claimed invention would have been obvious to one of ordinary skill in the art.

Respectfully, Applicants submit that the Examiner has not properly characterized the teachings of the references and/or the claims at issue. Accordingly, a prima facie case of obviousness has not been established.

As an initial note, Applicants note that the present application, which was filed on February 20, 2004, claims priority from German Patent Application Serial Number 103 07 548.8-54 filed on February 21, 2003. *See Certified Claim to Priority dated June 15, 2004.* Thus, the priority date for the present application is February 21, 2003.

The *Grundy* reference was filed on January 13, 2004, which is after the priority date of the present application. However, *Grundy* does claim priority to provisional applications No. 60/439,962 (filed on January 13, 2003), No. 60/513,503 (filed on October 21, 2003, and No. 60/517,646 (filed on November 3, 2003).

Because the priority date of the present application is February 21, 2003, only the content of the provisional application 650/439,962 (hereinafter, "*Grundy Prov.*") is relevant. The other two provisional applications were filed after the priority date of the present application, and therefore, cannot be considered as prior art.

Regarding claim 1, *Grundy Prov.*, *Pencis*, and *Sakurai* do not disclose a synchronous memory system, wherein each of a plurality of memory modules further comprises a buffer device, and wherein the buffer device is configured to determine whether an associated command needs to be forwarded to at least one of: (i) at least two memory banks in the respective memory module; (ii) and the one or more other memory modules, based on the selection command segment. Claim 16 discloses similar claim limitations.

Nowhere is it disclosed in *Grundy Prov.*, *Pencis*, and *Sakurai* that the forwarding of a command transferred on a transfer bus that is in the form of a daisy structure chain is based on a condition related to a portion of the command, as disclosed in the present claims. Therefore, *Grundy Prov.*, *Pencis*, and *Sakurai* do not disclose a synchronous

memory system, wherein each of a plurality of memory modules further comprises a buffer device, and wherein the buffer device is configured to determine whether an associated command needs to be forwarded to at least one of: (i) at least two memory banks in the respective memory module; (ii) and the one or more other memory modules, based on the selection command segment.

Therefore, the Examiner has not properly characterized the teachings of the references and/or the claims at issue.

Therefore, Applicants submit that claims 1, 16, and the claims that depend therefrom are allowable, and withdrawal of the rejection to the claims is respectfully requested.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Greeff et al.* (U.S. Patent No. 6,882,082, hereinafter, "*Greeff*") in view of *Pencis* and *Joo* (U.S. Patent No. 6,198,667).

Regarding claim 1, *Greeff*, *Pencis*, and *Joo* do not disclose a transfer bus for communication between a memory control device and a plurality of memory modules, wherein the transfer bus is in the form of a daisy chain structure and wherein the transfer bus comprises a plurality of parallel transfer lines, wherein the memory control device is configured to transfer the commands to the plurality of memory modules using the transfer bus.

The Examiner argues that *Greeff* discloses these elements in col. 3, lines 9-61. While the cited passage may disclose a daisy-chained transfer bus (*i.e.* the segmented data buses 28a, 28b, as illustrated in Figure 2 of *Greeff*), nowhere does the cited passage disclose that commands are transferred using the transfer bus. In this regard, the Examiner argues that "it is inherent that the transfer bus transfers the commands." See *Office Action dated October 8, 2008*, pg. 10. However, Figure 2 of *Greeff* explicitly illustrates that a separate bus (CMD/ADDR BUS 135) is used to transfer a command and address to a respective memory device. As stated in *Greeff*, "[t]he selection signal may be available to the interface circuit 30 on a conventional memory system command and address bus 135[.] See *Greeff*, col. 4, ll. 43-45. "The command and address bus

135 may also provide each memory module 24, 26 with address signals for read and write operations.” See *Greeff*, col. 4, ll. 53-56.

Therefore, it cannot be inherent that the transfer bus, as disclosed in *Greeff*, transfers commands. Therefore, *Greeff* does not disclose a transfer bus for communication between a memory control device and a plurality of memory modules, wherein the transfer bus is in the form of a daisy chain structure and wherein the transfer bus comprises a plurality of parallel transfer lines, wherein the memory control device is configured to transfer the commands to the plurality of memory modules using the transfer bus.

Because *Greeff* does not disclose that commands are transferred on a daisy-chained transfer bus, as recited in the present claims, it follows that *Greeff* also does not disclose a synchronous memory system, wherein each of a plurality of memory modules further comprises a buffer device, and wherein the buffer device is configured to determine whether an associated command needs to be forwarded to at least one of: (i) at least two memory banks in the respective memory module; (ii) and the one or more other memory modules, based on the selection command segment. Claim 16 discloses similar claim limitations.

Nowhere is it disclosed in *Greeff*, *Pencis*, and *Joo* that the forwarding of a command transferred on a transfer bus that is in the form of a daisy structure chain is based on a condition related to a portion of the command, as disclosed in the present claims. Therefore, *Greeff*, *Pencis*, and *Sakurai* do not disclose a synchronous memory system, wherein each of a plurality of memory modules further comprises a buffer device, and wherein the buffer device is configured to determine whether an associated command needs to be forwarded to at least one of: (i) at least two memory banks in the respective memory module; (ii) and the one or more other memory modules, based on the selection command segment.

Therefore, the Examiner has not properly characterized the teachings of the references and/or the claims at issue.

Therefore, Applicants submit that claims 1, 16, and the claims that depend therefrom are allowable, and withdrawal of the rejection to the claims is respectfully requested.

Conclusion

Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted, and
S-signed pursuant to 37 CFR 1.4,

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